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No. 99-1426

In The

Supreme Court of the United States

AMERICAN TRUCKING ASSOCIATIONS, INC., *et al.*,

Cross-Petitioners,

v.

CAROL M. BROWNER, Administrator of the Environmental Protection Agency, *et al.*,

Cross-Respondents.

On Writ Of Certiorari To The United States Court Of Appeals For The District Of Columbia Circuit

BRIEF OF CROSS-RESPONDENT AMERICAN LUNG ASSOCIATION

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QUESTION PRESENTED

Whether the Clean Air Act requires that the Environmental Protection Agency must, in setting primary national ambient air quality standards, ignore all factors other than health effects relating to pollutants in the air.

RULE 29.6 DISCLOSURE, AND LIST OF PARTIES BELOW

Respondent American Lung Association (ALA) was an intervenor in the court of appeals. ALA has no parent companies or nonwholly owned subsidiaries, and there is no parent or publicly held company owning 10% or more of ALA's stock.

The following were parties in one or both of the two consolidated proceedings addressed by this petition for certiorari (*American Trucking Assns. v. USEPA*, D.C. Cir. No. 97-1440 and consolidated cases; and *American Trucking Assns. v. USEPA*, D.C. Cir. No. 97-1441 and consolidated cases):

Alliance of Automobile Manufacturers (formerly American Automobile Manufacturers Association)
American Farm Bureau Federation
American Forest & Paper Association
American Iron and Steel Institute
American Lung Association
American Petroleum Institute
American Portland Cement Alliance
American Public Power Association
American Road and Transportation Builders Association
American Trucking Associations, Inc.
Appalachian Power Company
Atlantic City Electric Company
Baltimore Gas and Electric Company
James Bassage
Burns Motor Freight, Inc.
Carolina Power & Light Company
Centerior Energy Corporation
Central and South West Services, Inc.

RULE 29.6 DISCLOSURE, AND LIST OF PARTIES BELOW – Continued

Central Hudson Gas & Electric Corporation
Central Illinois Light Company
Central Illinois Public Service Company
Central Power and Light Company
Chamber of Commerce of the United States
Chemical Manufacturers Association
CINergy Corporation
Citizens for Balanced Transportation
Cleveland Electric Illuminating Company
Columbus Southern Power Company
ComEd Company
Consumers Energy Company
Dayton Power & Light Company
Delmarva Power & Light Company
Detroit Edison Company
Duke Energy Company
Duquesne Light Company
Edison Electric Institute
Equipment Manufacturers Institute
FirstEnergy Corporation (A merger of Centerior Energy Corporation and Ohio Edison Company)
Florida Power Corporation
Garner Trucking, Inc.
Genie Trucking Line, Inc.
Gloucester Company, Inc.
Michael Gregory
Idaho Mining Association
Illinois Power Company
Indiana Michigan Power Company
Indianapolis Power & Light Company
Jacksonville Electric Authority
Judy's Bakery, Inc.
Kansas City Power & Light Company
Kennecott Energy and Coal Company
Kennecott Holdings Corporation

RULE 29.6 DISCLOSURE, AND LIST OF PARTIES BELOW – Continued

Kennecott Services Company
Kentucky Power Company
Kentucky Utilities Company
Louisville Gas and Electric Company
Madison Gas and Electric Company
Commonwealth of Massachusetts
David Matusow
Brian McCarthy
Meridian Gold Company
State of Michigan
Midwest Ozone Group
Minnesota Power
Monongahela Power Company
Montaup Electric Company
National Association of Home Builders
National Association of Manufacturers
National Automobile Dealers Association
National Coalition of Petroleum Retailers
National Indian Business Association
National Mining Association
National Paint and Coatings Association
National Petrochemical & Refiners Association
National Rural Electric Cooperative Association
National Small Business United
National Stone Association
Nevada Mining Association
State of New Jersey
Newmont Gold Company
Niagara Mohawk Power Corporation
Non-Ferrous Founders Society
Northern Indiana Public Service Company
Oglethorpe Power Corporation
State of Ohio
Ohio Edison Company
Ohio Mining and Reclamation Association

RULE 29.6 DISCLOSURE, AND LIST OF PARTIES BELOW – Continued

Ohio Power Company
Ohio Valley Electric Corporation
Oklahoma Gas & Electric Company
Otter Tail Power Company
PacifiCorp
Pennsylvania Power & Light Company
Phoenix Cement Company
Plains Electric Generation & Transmission Cooperative, Inc.
Potomac Edison Company, The
Potomac Electric Power Company
PP&L Resources
Public Service Company of New Mexico
Public Service Company of Oklahoma
Richard Romero
Salt River Project Agricultural Improvement and Power District
Small Business Survival Committee
South Carolina Electric & Gas Company
Southern Company
Southwestern Electric Power Company
Tampa Electric Company
Texas Gas Transmission Corporation
Toledo Edison Company
Union Electric Company
United Mine Workers of America, AFL-CIO
United States Environmental Protection Agency
Virginia Power
West Penn Power Company
West Texas Utilities Company
West Virginia Chamber of Commerce
State of West Virginia
Western Fuels Association
Wisconsin Electric Power Company

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GLOSSARY

ALA	American Lung Association
APC	Appalachian Power Company
ATA	American Trucking Associations, Inc.
CASAC	Clean Air Scientific Advisory Committee
CD	Criteria Document
EPA	Environmental Protection Agency
HEW	Department of Health, Education, and Welfare
JAO	Joint Appendix in D.C. Cir. No. 97-1441 (Ozone NAAQS)
JAPM	Joint Appendix in D.C. Cir. No. 97-1440 (Particulate Matter NAAQS)
NAAQS	National Ambient Air Quality Standards
NCAQ	National Commission on Air Quality
PM	particulate matter
ppm	parts per million
RIA	Regulatory Impact Analysis
SP	Staff Paper

STATEMENT OF THE CASE

I. EPA's 1997 NAAQS, AND THE COURT OF APPEALS DECISION.

The background of the Environmental Protection Agency (EPA) national ambient air quality standards (NAAQS) at issue in this case is set forth in American Lung Association's (ALA's) brief in No. 99-1257. In addition, the D.C. Circuit affirmed EPA's conclusion – based on step one of *Chevron, U.S.A. v. Natural Resources Defense Council*, 467 U.S. 837 (1984) – that primary NAAQS must be based solely on health effects relating to pollutants in the air, not on compliance-related factors such as cost. App. 19a-21a.[1] *Accord, id.* 15a.

II. THE CLEAN AIR ACT.

The text, structure, and evolution of the Clean Air Act demonstrate that the 1970 Amendments precluded consideration of compliance-related factors in setting primary NAAQS, abandoning the contrary approach of the 1967 Act; that Congress reaffirmed the 1970 Amendments' approach in 1977, when it enacted a mandate for periodic review and revision of NAAQS; and that Congress declined to alter this approach when it enacted another comprehensive overhaul of the Act in 1990.

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[1] Appendix citations refer to the appendix filed by the Environmental Protection Agency with its petition for certiorari. In addition, for purposes of brevity, this brief uses the phrase "compliance-related factors" to denote socioeconomic factors concerning compliance with NAAQS, including the cost and feasibility of compliance, and alleged health impacts associated with compliance.

A. Pre-1967 Enactments.

Eight years after authorizing the federal government to provide technical assistance to states and localities concerning air pollution control, Pub. L. No. 84-159, 69 Stat. 322-23 (July 14, 1955), Congress enacted the Clean Air Act of 1963. That statute authorized federal abatement of air pollution, but only in narrow circumstances and subject to numerous limitations – including the requirement that courts hearing abatement suits weigh "the practicability" and "physical and economic feasibility" of abatement. Pub. L. No. 88-206, § 5(a)-(g), 77 Stat. 396-98 (December 17, 1963).

In addition, the 1963 Act directed the Secretary of Health, Education, and Welfare (HEW), "[w]henever he determines that there is a particular air pollution agent (or combination of agents), present in the air in certain quantities, producing effects harmful to the health or welfare of persons," to "compile and publish criteria reflecting accurately the latest scientific knowledge useful in indicating the kind and extent of such effects which may be expected from the presence of such air pollution agent (or combination of agents) in the air in varying quantities." § 3(c)(2). The criteria were for "informational" rather than regulatory purposes. *Id.*

B. 1967 Act.

In 1967 Congress enacted a substantial overhaul of the Act, Pub. L. No. 90-148, 81 Stat. 485 (November 21, 1967), the "heart" of which was a mandate for establishment of air quality standards, which were to drive abatement efforts. § 108(c). *See* H. Rep. 728, 90th Cong., 1st Sess. 17 (1967) ("1967 H. Rep."). To lay the foundation for

establishment of standards, Congress directed the Secretary to generate two kinds of information.

Air quality criteria. First, Congress continued the 1963 Act's requirement for air quality criteria, and directed that the criteria be "requisite for the protection of the public health and welfare," and that they "accurately reflect the latest scientific knowledge useful in indicating the kind and extent of all identifiable effects on health and welfare which may be expected from the presence of an air pollution agent, or combination of agents in the ambient air, in varying quantities." § 107(b)(1) and (2). They were to "include those variable factors which of themselves or in combination with other factors may alter the effects on public health and welfare of any subject agent or combination of agents, including, but not limited to, atmospheric conditions, and the types of air pollution agent or agents which, when present in the atmosphere, may interact with such subject agent or agents, to produce an adverse effect on public health and welfare." § 107(b)(3).

The drafters explained that criteria would include information about the health and welfare effects of air *pollution*, but not about the economic or technical impacts of pollution *control*. For example, the House Report noted that, "[u]nder the proposed legislation, air quality criteria are of much greater importance than they have been until now," and thus "[i]t is essential . . . that there be no confusion about the purpose" of such criteria. 1967 H. Rep. 16.

> They describe the effects that can be expected to occur whenever and wherever the ambient air level of a pollutant reaches or exceeds a specific figure for a specific time period. Thus, they define the health and welfare considerations

> that must be taken into account in the development of standards and regulations. *Economic and technical considerations have a place in the pattern of control activity but not in the development of criteria.* Air quality criteria should provide a clear statement of how well air pollution should be controlled in order to safeguard the public health and welfare, *economic and technical factors notwithstanding.*

Id. (emphasis added). The Senate Report was to the same effect:

> "Air quality criteria are an expression of the scientific knowledge of the relationship between various concentrations of pollutants in the air and their adverse effects on man, animals, vegetation, materials, visibility and so on." . . .
>
> An expression of scientific knowledge, the criteria indicate quantitatively and qualitatively the lowest known levels of exposure at which specific deleterious effects have been reported for a given pollutant or combination of pollutants. . . .
>
> The committee recognizes that criteria of ambient air quality which define health and welfare effects of air pollution *do not take into consideration the technological and economic feasibility of achieving such air quality.*

S. Rep. 403, 90th Cong., 1st Sess. 26-27 (1967) ("1967 S. Rep.") (emphasis added; citation omitted).

Control techniques information. To provide the economic and technological information that was lacking from the criteria, Congress established a new mandate that had not been part of the 1963 Act: it required the Secretary to issue

> information on those recommended control techniques the application of which is necessary

> to achieve levels of air quality set forth in criteria . . . , which information shall include technical data relating to the *technology and costs* of emission control, . . . [and] such data as are available on the latest available *technology and economic feasibility* of alternative methods of prevention and control of air contamination including *cost-effectiveness analyses.*

§ 107(c) (emphasis added). *See* 1967 H. Rep. 16-17 (discussing this requirement); 1967 S. Rep. 27-28 (same). *See also* 113 Cong. Rec. 19175/2 (1967) (Senator Randolph: "The economic and technological information which the Secretary must provide as a part of the recommended control techniques to accompany the criteria is expected to reflect the same careful study and preparation as do the medical and scientific data relating to air quality criteria.").

Air quality standards. Both criteria and control techniques information were to be issued "to the States," § 107(b)(1) and (c),[2] which were given primary responsibility for establishing air quality standards, HEW's standard-setting authority being limited to instances where a state failed to establish standards. § 108(c)(1) and (2). Whether established by the states or by HEW, standards were to be "consistent with the air quality criteria *and recommended control techniques.*" *Id.* (emphasis added).

In addition, the Act contemplated that standards would be "consistent with the purposes of this Act." § 108(c)(2). *Accord*, § 108(c)(1) (addressing revised standards). Among the purposes of the 1967 Act were "to protect and enhance the quality of the Nation's air

---

[2] In addition, control techniques information was to be issued to "appropriate air pollution control agencies." § 107(c).

resources so as to promote the public health and welfare and the productive capacity of its population." § 101(b)(1).

The House Report explained the standard-setting process:

> To warrant approval by the Secretary, air quality standards for a given class of pollutants must be consistent with the Secretary's air quality criteria *and control technology data* for those pollutants. This means, in the opinion of the committee, that such standards must call for air quality levels which, based on the Secretary's criteria, are at a minimum adequate for the protection of public health *and which can be achieved through the application of feasible control techniques*.

1967 H. Rep. 17-18 (emphasis added). *Accord, id.* 25.

The Senate committee emphasized that the air quality standards must be "consistent with the air quality criteria *and recommended control techniques*," and explained:

> An expression of public policy rather than scientific findings, their development from air quality criteria will be influenced not only by a concern for the protection of health or welfare, but also by *economic, social, and technological considerations*. The committee feels that under any circumstances protection of health should be considered a minimum requirement, and wherever possible standards should be established which enhance the quality of the environment.

1967 S. Rep. 28-29 (emphasis added).

C. 1970 Amendments.

Congress sharply changed course in the Clean Air Amendments of 1970, which were "a drastic remedy to

what was perceived as a serious and otherwise uncheckable problem of air pollution." *Union Electric Co. v. EPA*, 427 U.S. 246, 256 (1976). *See also Train v. Natural Resources Defense Council*, 421 U.S. 60, 64 (1975) (under the pre-1970 Act, "the States generally retained wide latitude to determine both the air quality standards which they would meet and the period of time in which they would do so;" the response of the States was "disappointing," and brought "little progress;" "Congress reacted by taking a stick to the States in the form of the Clean Air Amendments of 1970," which "sharply increased federal authority and responsibility in the continuing effort to combat air pollution.").

Senate Bill. In September 1970, the Senate reported a bill that became the basis for the 1970 Amendments. Far stronger than the previously reported House bill, the Senate bill not only required that HEW establish national ambient air quality standards for pollutants for which criteria had been issued, but also specified that those standards were to be "air quality standards the attainment and maintenance of which are necessary to protect the health of persons." S. Rep. 1196, 91st Cong., 2d Sess. 86 (1970) ("1970 S. Rep.") (§ 110(a)(3)). The committee report explained that standards must ensure "an absence of adverse effect on the health of a statistically related sample of persons in sensitive groups," including "bronchial asthmatics and emphysematics who in the normal course of daily activity are exposed to the ambient environment." *Id.* 10. Within nine months of promulgation of air quality standards, states were to submit for the Secretary's approval implementation plans providing for

attainment of the air quality standards within three years of the plans' approval. *Id.* 86-87 (§ 111(a)(1) and (2)).[3]

The Senate bill contained no language allowing the Secretary to use compliance-related factors as a basis for limiting the health protection mandate of proposed § 110(a)(3). For example, there was no provision (as in the 1967 Act) that air quality standards must be consistent with control techniques information. Instead, "[t]he Committee recognize[d] that *the States* will continue to need this information to develop meaningful programs for *implementation* of ambient air quality standards on a regional basis." *Id.* 9 (emphasis added). *See also* 116 Cong. Rec. 32918/2 (1970) (Senator Cooper notes that, after NAAQS are promulgated, a control plan must be developed; "It is at *this* point that States and communities must make economic decisions, and decisions on the future growth of their areas and the kind of life they want, in considering alternative means of achieving clean air.") (emphasis added).

The legislative history makes clear that the exclusion of compliance-related factors from NAAQS-setting was a deliberate choice. "In the Committee discussions, considerable concern was expressed regarding the use of the concept of technical feasibility as the basis of ambient air

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[3] In addition to NAAQS, the Senate bill mandated national ambient air quality "goals," to be set at levels "necessary to protect the public health and welfare from any known or anticipated adverse effects associated with the presence of such air pollution agent or combination of such agents in the ambient air." 1970 S. Rep. 86 (§ 110(b)). The report explained that while NAAQS "are authorized because the Committee has recognized that protection of health is a national priority," goals were authorized because "man's natural and man-made *environment* must be preserved and protected." *Id.* 11 (emphasis added).

standards," but the committee determined that "the health of people is more important than the question of whether the early achievement of ambient air quality standards protective of health is technically feasible." 1970 S. Rep. 2. *Accord*, 116 Cong. Rec. 32901-02 (quoting 1967 Senate Report language admonishing that technological and economic factors "should not be used to mitigate against protection of the public health and welfare," 1967 S. Rep. 2, Senator Muskie states: "Contrary to this intent, these considerations have been used as arguments to compromise the public health. Therefore, the committee has made explicit in this bill what is implicit to standards designed to protect our health. That concept and that philosophy are behind every page of the proposed legislation."); 33115/1 (Senator Prouty: "for the first time, air quality standards will take precedence over objections of economic impracticality and technical impossibilities.").

Unlike the 1967 Act, which had primarily contemplated application of *existing* technology,[4] the Senate bill's mandate for health-based standards to be met in a fixed time frame was "expressly designed to force regulated sources to develop pollution control devices that might at the time appear to be economically or technologically infeasible" – an approach that is known as "technology-

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[4] See 1967 H. Rep. 17-18 (quoted *supra* at 6); *id.* 13-14 (bill seeks to insure "that sources of air pollution will be controlled to the extent consistent with available knowledge of the adverse effects of pollutants on health and welfare and with *available* control technology") (emphasis added); 1967 S. Rep. 10 ("Strong regulatory programs are needed to insure full application of technological, *feasible, and economically reasonable* methods of control.") (emphasis added).

forcing." *See Union Electric*, 427 U.S. at 257. As Senator Muskie explained:

> The first responsibility of Congress is not the making of technological or economic judgments – or even to be limited by what is or appears to be technologically or economically feasible. Our responsibility is to establish what the public interest requires to protect the health of persons. This may mean that people and industries will be asked to do *what seems to be impossible* at the present time. But if health is to be protected, these challenges must be met.

116 Cong. Rec. 32901-02 (emphasis added). *Accord, id.* 32919/2 (Senator Cooper: "[T]he philosophy of the bill abandons the old assumption of requiring the use of only whatever technology is already proven and at hand and of permitting pollution to continue when it is not economically feasible to control it. The bill proceeds instead to set out what is to be achieved, and places its reliance on a great effort to develop technology, to train and put to work the manpower to accomplish that purpose, and it assumes a readiness by industry and the people or the country to pay the costs of pollution control."); 32902/1 (Senator Muskie notes that the bill's requirements "will be difficult to meet. But the committee is convinced that industry can make compliance with them possible or impossible. It is completely within their control. Industry has been presented with challenges in the past that seemed impossible to meet, but has made them possible.").

While expressing confidence in the ability of industry to meet these challenges, the drafters also indicated their awareness of the costs involved. 1970 S. Rep. 2 (the protection of public health will require "major action

throughout the Nation," including "major investments in new technology and new processes," and revised land use, transportation, and fuel policies; "Some facilities may be closed."); *id.* 3 ("existing sources of pollutants either should meet the standard of the law or be closed down"); *id.* 13 (recognizing that during the next several years, it will be "impossible" in many areas to attain NAAQS through motor vehicle tailpipe standards alone, but nonetheless stating that the committee "does not intend that these areas be exempt from meeting the standards;" instead, areas may need to institute transportation system changes and traffic control restrictions, which "may impose severe hardship").

These costs were considered justified by the urgent need to protect public health from air pollution: 116 Cong. Rec. 32903/3 (Senator Muskie: "We have been conscious, I think, since early June that what we were considering writing into law could result in drastic changes in the pattern of the life we live in the urban areas of America. We felt that just such changes were essential if we were really to come to grips with the problem of air pollution."); 1970 S. Rep. 1 (bill authorizes a "massive attack" on air pollution, which is "more severe, more pervasive, and growing at a more rapid rate than was generally believed"). *See also* 116 Cong. Rec. 32907/3 (Senator Boggs); 32918/1 (Senator Cooper); 32919/3 (Senator Spong); 33113/3 (Senator Young); 33114/2 (Senator Nelson); 33114/3 (Senator Prouty); 33118/1 (Senator Yarborough); *id.* (Senator McIntyre).

Conference Bill. The conference adopted the approach of the Senate bill, with certain modifications. Instead of "standards" and "goals," the conference bill

provided for "primary and secondary standards, the former relating to public health and the latter to public welfare." Conf. Rep. No. 1783, 91st Cong., 2d Sess. (1970), U.S. Code Cong. & Ad. News 5377 (1970). Several aspects of the final wording merit emphasis.

First, unlike either the House or Senate bills, the conference bill required both primary and secondary standards to be "based on" the air quality criteria issued under § 108. § 109(b)(1) and (2). This formulation represented a break with the 1967 Act, which had only required that standards be "consistent with" the criteria. 1967 Act § 108(c)(1) and (2).

Second, though revisions were made in the 1967 Act's provision prescribing the content of criteria, no language was inserted authorizing criteria to address economic or social considerations associated with pollution control. To the contrary, criteria were to "accurately reflect the latest scientific knowledge useful in indicating the kind and extent of all identifiable effects on public health or welfare which may be expected *from the presence of such pollutant in the ambient air*, in varying quantities." § 108(a)(2) (emphasis added).[5]

Third, in addition to specifying what *future* air quality criteria were to contain, Congress also required the

[5] While "welfare" effects were statutorily defined to include "effects on economic values," § 302(h), no such definition imported economics into the statutory term "health." Moreover, even as to welfare, the "economic values" cognizable for NAAQS purposes were those related to "the presence of such pollutant in the ambient air." § 108(a)(2). *Accord*, § 109(b)(2). *See also* Pub. L. 101-549, § 109(b), 104 Stat. 2470 (Nov. 15, 1990) (amendment to § 302(h) further confirming that welfare effects relate to the presence of pollutants in the air).

setting of NAAQS based on *previously issued* criteria. These pre-existing criteria did not address compliance-related factors, and the short deadlines imposed by Congress (30 days for proposal of NAAQS, 90 additional days for promulgation) would not have allowed time for revision to include such factors. Indeed, far from expressing dissatisfaction with the absence of such factors from the criteria, Congress *deleted* the provision of the 1967 Act that required HEW to reexamine pre-existing criteria. *See* 1967 Act § 107(b)(1). *See also* 1970 S. Rep. 1 (noting that the previously issued criteria documents "increased" the committee's concern about public health impacts of pollution).

Fourth, instead of providing for the inclusion of compliance-related factors in criteria, Congress mandated (as had the 1967 Act) that such factors be addressed in control techniques information. § 108(b)(1) (control techniques information "shall include data relating to the technology and costs of emission control"). Of key importance, Congress *dropped* the 1967 Act's requirement that air quality standards be "consistent with" the control techniques information. In short, instead of being "consistent with the air quality criteria *and recommended control techniques*," 1967 Act § 108(c)(1) and (2) (emphasis added), standards were to be "based on . . . [the] *criteria*." 1970 Act § 109(b)(1) (emphasis added).

Fifth, because criteria were now to be used by EPA in setting NAAQS, while control techniques information was not, the conference (1) deleted the 1967 Act's provision that criteria be issued "to the States," § 108(a)(2) (EPA "shall *issue* air quality criteria") (emphasis added),

but (2) *retained* the 1967 Act's provision that control techniques information be issued "to the States and appropriate air pollution control agencies." § 108(b)(1). Thus, though no longer used to set air quality standards, control techniques information would continue to provide states information useful in planning compliance, *see* p. 8, *supra* (quoting 1970 Senate Report), as well as offering "advance warnings to industries or other sources of contamination of what will be expected of them." 1967 S. Rep. 27.[6]

Sixth, the 1967 Act's reference to "cost-effectiveness analyses" as a component of control techniques information (1967 Act § 107(c)) was dropped.

Seventh, Congress deleted the provisions of the 1967 Act (*see* p. 5, *supra*) that had required air quality standards to be "consistent with the *purposes*" of the Act.

Eighth, in addition to the § 108(b)(1) provision concerning control techniques information, the Act contains other provisions showing that Congress knew how to reference compliance-related factors when it wished to do so. For example, the 1970 Act retained a pre-existing provision mandating "a comprehensive study of the *economic impact* of air quality standards on the Nation's industries, communities, and other contributing sources of pollution, including an analysis of the national requirements for and the *cost* of controlling emissions to attain such standards of air quality as may be established pursuant to this Act." § 312(a) (emphasis added). Tellingly,

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[6] *Cf.* ATA Br. 40 (questioning why Congress would have required control techniques information to be made available contemporaneously with NAAQS-setting).

§ 109(b)(1) omitted any reference to such economic and cost analysis as a basis for NAAQS.

Moreover, the 1970 Act provided that primary NAAQS were to be attained within three years from approval of air pollution control plans, § 110(a)(2)(A)(i), but allowed for extensions if it could be shown that "the necessary technology or other alternatives are not available or will not be available soon enough to permit compliance within such three-year period." § 110(e)(1)(A). Likewise, other provisions of the 1970 Act expressly incorporated compliance-related factors. § 111(a)(1) (new source performance standards must provide for the degree of emission reduction that is "achievable," "taking into account the cost of achieving such reduction"); § 231(b) (aircraft emission standards shall take effect after such period as is necessary "to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance").

Both houses of Congress approved the conference bill in December 1970, expressing their awareness of the far-reaching consequences of the legislation. 116 Cong. Rec. 42381/2 (Senator Muskie: a "tough" bill that faces the air pollution crisis with "urgency" and makes "hard choices"); 42393/2 (Senator Muskie: "the whole complex of residential patterns, employment patterns, and transportation patterns – the way in which people move about, go to their work, and live – . . . must be modified if the objective of clean air is to be achieved"); 42392/2 (Senator Randolph: "each and every person will be called on to pay the increased costs . . . associated with the achievement of an environment that, at a minimum, does not endanger public health"). *See also id.* 42384/3 (summary provided by Senator Muskie); 42393/1 (Senator Spong);

42394/2 (Senator Cooper); 42521/3 (Congressman Hechler); 42522/2 (Congressman Rogers); 42522-23 (Congressman Anderson); 42523/1 (Congressman Ryan); 42523-24 (Congressman Vanik).

D. Post-1970 Implementation.

Four months after enactment of the 1970 Act, EPA promulgated NAAQS for six pollutants. 36 Fed. Reg. 8187 (April 30, 1971), JAPM 245. In the preamble to that notice, EPA enunciated an interpretation from which the agency has not since wavered: specifically, that the Act "does not permit any factors other than health to be taken into account in setting the primary standards." *Id.* 8186/1, JAPM 244.

At oversight hearings in 1972, EPA presented a memorandum from its Office of General Counsel, which stated that "*except where specifically called for* in the Act, e.g., new source performance standards, *economic considerations are not to be the basis* for the Administrator's decisions. The national ambient air quality standards are set at levels necessary to protect the public health and welfare. The *cost or feasibility* of meeting these standards *was not a consideration.*" *Implementation of the Clean Air Act Amendments of 1970 – Part I,* Senate Hearing 92-H31 (February 16-23, 1972), at 312 (emphasis added). *Accord, id.* at 18-19 (Senator Eagleton, a conferee in the 1970 Act: "In respect to economic feasibility, it is clear again beyond any shadow of a doubt that Congress intended that this not be a factor insofar as the primary standards were concerned relating to public health."), 21 (similar statement by Senator Eagleton); *Implementation of the Clean Air Act – 1975,* Senate Hearing 94-H10 (April 22, 1975) ("1975 S. Hrg."), at 775-76 (in response to a witness's assertion that

the cost of pollution control should be taken into account in setting NAAQS, Senator Muskie stated that the drafters of the 1970 Act "decided that the only way to handle it that made any sense was public health," and quoted the 1970 Senate Report language calling for "an absence of adverse effect on the health of a statistically-related sampling [sic] of persons in sensitive groups from exposure to the ambient air").

E. The 1977 Amendments.

With the passage of the 1975 deadline for attainment of the primary NAAQS, many areas remained in violation – especially of the photochemical oxidants NAAQS, the predecessor to the current ozone NAAQS, which had been set at a level substantially more stringent than the 1997 ozone NAAQS challenged in the present case. *See* 36 Fed. Reg. 8187/3 (1971), JAPM 245 (0.08 ppm, averaged over *one* hour, not eight hours as in the 1997 NAAQS). Responding to the specter of substantial restrictions on industry, Congress revisited the Act.

Some – including at least one party to the present litigation – proposed that Congress's response should include allowing consideration of compliance-related factors in the setting of NAAQS. A Legislative History of the Clean Air Act Amendments of 1977 ("1977 LH") 4181-82 (Manufacturing Chemists Association, predecessor to the American Chemistry Council, proposed that § 109(b) be amended to "reflect the need to consider socioeconomic factors in the setting of standards"). *Accord, id.* 4190 (Dow Chemical). These proposals were made years *before* the D.C. Circuit first ruled, in *Lead Industries Assn. v. EPA,* 647 F.2d 1130, 1148-51 (D.C. Cir. 1980), that the Act bars consideration of such factors.

Congress did not, however, adopt these proposals. As explained by Senator Domenici, the 1970 Senate Committee had been "explicit" in ruling out consideration of technical feasibility in the setting of NAAQS, thus contemplating "a legislative blitzkrieg by the federal government that would roll over economic and technical difficulties." 1977 LH 4505-06. Nonetheless, the NAAQS were "one area of the law that the [1976 Senate] Committee refused to alter," *id.* 4507, and that refusal carried through to the final version of the 1977 Amendments.

Far from adopting the industry suggestions to inject compliance-related factors into NAAQS, Congress instead enacted a provision requiring EPA to review and revise NAAQS and criteria at no more than five-year intervals, applying the *pre-existing* mandates of §§ 109(b) and 108. § 109(d)(1) (EPA "shall make such revisions in such criteria and standards and promulgate such new standards as may be appropriate in accordance with section 108 and subsection (b) of this section").

The drafters of § 109(d) were aware of the widespread nonattainment of the existing standards and the economic issues posed by that nonattainment. H. Rep. 294, 95th Cong., 1st Sess. 207-10 (1977) ("1977 H. Rep."). Indeed, they were specifically aware of the economic problems posed by failure to attain the 1971 photochemical oxidant NAAQS – which, as previously indicated, was substantially more stringent than the 1997 ozone NAAQS challenged here. *Id.* 509-14 (dissenting views of Congressman Krueger, *et al.*, noting that the photochemical oxidant standard had "uniformly and pervasively proved impossible of attainment," with 88% of monitored regions reporting exceedances, and that "[a] literal enforcement

of the Clean Air Act would permit no industrial development in nonattainment areas after the nonattainment date is passed"). The drafters were also aware of the 1971 NAAQS promulgation (in which EPA expressly stated that the Act does not permit primary NAAQS to be based on any factor other than health). *Id.* 180. In short, they were aware that, when EPA undertook to reexamine the existing photochemical oxidants NAAQS – the very NAAQS that was threatening widespread economic impacts in numerous areas – the agency's interpretation of § 109(b) would bar the agency from considering those impacts.

Finally, the drafters of § 109(d) were aware that, given the direction in which scientific knowledge was developing at that time, there was a substantial prospect that EPA would *tighten* the NAAQS, including the photochemical oxidant NAAQS. *Id.* 182 ("deficiencies and limitations of the national ambient air quality standards suggest that *greater not lesser* control of emissions are likely to be needed") (emphasis added); 127 ("all indicators point to the likely necessity for *tightening* the ambient air quality standards to protect public health") (emphasis added); 108-09 (quoting Johns Hopkins study on photochemical oxidants that found " 'the current standard of 0.08 ppm to have little margin of safety for susceptible populations (such as the elderly or chronically ill patient), and *thus a lower standard is justified* . . . [A] 1 hour standard of 0.06 ppm would appear to be appropriate.' ") (emphasis added by House committee); 109 (noting that the standard recommended by the Johns Hopkins study "would be 25 percent *more* stringent than the present standard") (emphasis added).

Yet, despite this awareness, the drafters included neither in the text of § 109(d) nor in their committee report indication of any intent to overturn EPA's interpretation of the Act and require consideration of compliance-related factors.

Indeed, the only place in § 109(d) where compliance-related factors are mentioned is in a provision requiring a scientific committee to advise EPA "of any adverse public health, welfare, social, economic, or energy effects which may result from various strategies for attainment and maintenance of such national ambient air quality standards." § 109(d)(2)(C)(iv). There is no authorization for EPA to override the terms of § 109(b) by considering such factors in deciding whether to revise NAAQS, nor does the legislative history indicate any such intent. To the contrary, the drafters indicated that the § 109(d)(2)(C)(iv) recommendations may be "of interest and assistance *to the States and to Congress* in fashioning future legislation." 1977 H. Rep. 183 (emphasis added). This provision for a scientific committee to issue *advice* on compliance-related factors stands in stark contrast to other provisions of the 1977 Amendments in which Congress showed that it knew how to authorize *regulations* to be based on such factors. *See, e.g.*, Pub. L. 95-95, § 126, 91 Stat. 730 (August 7, 1977) (adding § 157(b)) (authorizing promulgation of regulations to protect the stratospheric ozone layer, and providing: "Such regulations shall take into account the feasibility and the costs of achieving such control.").

"In an act with basically two working parts, standards and deadlines," Congress's refusal to weaken the NAAQS or the basis for setting NAAQS "left the deadlines as the major variable around which to structure . . . compromises." 1977 LH 4508 (Senator Domenici).

And indeed, Congress authorized extensions of NAAQS attainment deadlines, requiring that specified pollution control initiatives be undertaken during the extension period. Pub. L. 95-95, § 129(b), 91 Stat. 746-47 (August 7, 1977) (adding § 172(a), which authorized attainment deadlines to be extended to 1982, with a possible further extension to 1987).

Likewise, Congress authorized compliance deadlines for specific pollution sources to be extended until after the applicable NAAQS attainment deadline. Pub. L. 95-95, § 112(a), 91 Stat. 705-09 (adding § 113(d)). Discussing this provision, the House committee noted that the committee "t[ook] no issue" with this Court's holding in *Union Electric*. 1977 H. Rep. 56. There this Court had rejected the assertion that EPA was authorized to consider economic and technological feasibility in acting on state implementation plans: "Where Congress intended the Administrator to be concerned about economic and technological infeasibility, it expressly so provided." 427 U.S. at 257 n.5. The House committee – the *same* committee that drafted § 109(d) – indicated its agreement with this aspect of *Union Electric*:

> First, economic and technical feasibility may be considered, under the conditions *expressly provided for* in the statute, including under a DCO [delayed compliance order] application. Second and conversely, consideration of economic and technical factors in *other* contexts (i.e. in section 110 approvals, section 307(b) judicial review of such approvals, or in section 113 enforcement proceedings) is *not* authorized.

1977 H. Rep. 68 (emphasis added). As indicated previously, the drafters of § 109(d) included no language

"expressly provid[ing]" for the Administrator to consider compliance-related factors in NAAQS-setting.[7]

F. Post-1977 Developments.

The 1977 Amendments established a special commission which was to prepare a report concerning a broad range of issues raised by the Act, including the Act's economic effect. Pub. L. 95-95, § 313, 91 Stat. 785-88 (adding § 323; *see especially* § 323(b)(1)). In March 1981, the commission submitted a report – joined by three members of Congress (including the chair of the House committee with jurisdiction over the Act), as well as representatives of industry and state and local government. National Commission on Air Quality, To Breathe Clean Air (March 1981), at viii, iii. The report concluded that "[t]he statutory basis for setting national primary air quality standards does not take economic factors into account." *Id.* 70. *Accord, Executive Branch Review of Environmental Regulations*, Senate Hearing 96-H4 (Feb. 27, 1979) ("1979 S. Hrg."), at 343 (Senator Muskie: "The statute clearly prohibits the use of economic considerations in the setting of the health standards."); *id.* 251 (another

[7] The 1977 Amendments also included a new provision mandating "economic impact assessment" of certain enumerated Clean Air Act regulations. § 317, 42 U.S.C. § 7617. Even though this provision expressly clarified that "[n]othing in this section shall be construed to provide that the analysis of the factors specified in this subsection affects or alters the factors which the Administrator is required to consider" in taking the enumerated actions, Congress still declined to include the NAAQS among the covered provisions. *See* 1977 H. Rep. 51 (§ 317 applies to "*non-health-related* regulations") (emphasis added).

similar statement by Senator Muskie); *id.* 261 (Senator Bentsen noted that EPA's 1979 ozone NAAQS had not been influenced by economic considerations, and added: "I fully understand the statutory requirement that defines your decision-making process . . . . "); *Clean Air Act Oversight – Part 3*, Senate Hearing 97-H12 (June 9, 1981) ("6/1981 S. Hrg."), at 209 (Senator Gorton: "section 109 sets the primary standards at a level requisite to protect the public health with an educated margin of safety and which does not include cost benefit"); *Health Standards for Air Pollutants*, House Hearing 97-97 (October 14, 1981) ("1981 H. Hrg."), at 1 (Congressman Waxman: "[b]oth the agency and the courts have properly interpreted the Clean Air Act to forbid the consideration of costs in setting the health standards"); *id.* at 102 (Lester Lave – an amicus in the present case – indicated that Congress in 1970 "dismissed the relevance of abatement cost in setting the [NAAQS]"); *Use of Cost-Benefit Analysis by Regulatory Agencies*, House Hearing 96-157 (July 30, 1979), at 53 (Robert Crandall – an amicus in the present case – noted that "primary ambient air standards are to be set without regard to any measure of cost").

Having so found, the Commission recommended that "[t]he current statutory criteria and requirements for setting air quality standards at the levels necessary to protect public health without consideration of economic factors *should remain unchanged.*" NCAQ Report 55 (emphasis added). The Commission explained: "[I]f a national air quality standard were based in part on the costs of complying with it, the high costs of meeting the standard in a few heavily polluted areas could result in the standard's being set at a less protective level than is achievable in a reasonable, economic fashion in other

areas." *Id.* 70. At hearings held to address reauthorization, a number of legislators and witnesses likewise recommended against changing this aspect of the Act, citing ethical, scientific, and practical considerations. *See, e.g., Clean Air Act Oversight – Part 1*, Senate Hearing 97-H12 (April 9, 1981) ("4/1981 S. Hrg."), at 80 (former EPA Administrator Train), 82 (former EPA Administrator Costle); 6/1981 S. Hrg. 191 (Senator Stafford); 242-43 (Dr. Homer Boushey, assistant professor of medicine, University of California); 244-45 (David Hawkins, former Assistant Administrator for Air, EPA); 1981 H. Hrg. 22-23 (Marvin Schneiderman, Ph. D., senior science advisor, Clements Associates); 72-73, 75-83 (Nicholas Ashford, Ph. D., associate professor of technology and policy at MIT); 146-68, 200 (Douglas MacLean, research associate, Center for Philosophy and Public Policy, University of Maryland); *Reports of the Natl. Comm. on Air Quality and the Natl. Academy of Sciences*, Joint Hearing 97-6 (March 2, 1981) ("1981 Joint Hrg."), at 58-60 (Congressman Waxman).

Others – including parties and amici in this case – disagreed and urged Congress to amend the Act to allow consideration of compliance-related factors in NAAQS-setting. 6/1981 S. Hrg. 419-20 (Chemical Manufacturers Assn.), 199 (George Eads); 1981 H. Hrg. 86-87, 203 (Lester Lave).

After many years of deliberation, Congress enacted a major overhaul of the Clean Air Act in 1990. Recognizing that many areas had not attained the NAAQS by the extended deadlines in the 1977 Amendments (*i.e.*, 1982 and 1987), the 1990 Amendments authorized further extensions in attainment deadlines, with additional requirements for pollution control activities in the

interim. Pub. L. 101-549, §§ 101-111, 104 Stat. 2399-2471 (November 15, 1990). Congress also included a number of other provisions that expressly reference cost. For example, Congress amended § 312 to require analysis of (inter alia) "the *costs*, benefits and other effects associated with compliance with each standard issued for . . . a criteria air pollutant subject to a standard issued under section [109]." 42 U.S.C. § 7612(a) (emphasis added). And it amended the hazardous air pollutant provision of § 112 to provide for emission standards that offer "an ample margin of safety to protect public health in accordance with this section (as in effect before November 15, 1990), unless the Administrator determines that a more stringent standard is necessary to prevent, *taking into consideration costs, energy, safety, and other relevant factors*, an adverse environmental effect." 42 U.S.C. § 7412(f)(2)(A) (emphasis added).

In contrast to these and other amendments authorizing consideration of compliance-related factors under other provisions of the Act, Congress made no amendments to § 109 – even though Congress was clearly aware that that provision had been construed as requiring primary NAAQS to be based only on health effects of pollutants in the air. S. Rep. 228, 101st Cong., 1st Sess. 5 (1989); H. Rep. 490, 101st Cong., 2d Sess. 145 (1990).

SUMMARY OF ARGUMENT

By mandating establishment of health-protective primary NAAQS based on air quality criteria that do not include consideration of compliance-related factors – and indeed by *deleting* from the Act a pre-existing provision requiring air quality standards to be consistent with

compliance cost information – the 1970 Amendments clearly expressed Congress's intent that compliance-related factors not be considered in establishing primary NAAQS.

In 1977, moreover, Congress enacted a mandate for periodic review and revision of NAAQS. Yet despite Congress's awareness of widespread socioeconomic impacts resulting from nonattainment of the NAAQS promulgated in 1971, and despite its belief that developing information on health effects could well result in *more* stringent NAAQS, Congress reaffirmed rather than changed the pre-existing mandate for health-protective NAAQS based on the air quality criteria.

The Court should decline ATA's invitation to overturn Congress's clearly expressed intent on policy grounds. Congress was entitled to write into law its policy preference that NAAQS accurately reflect health impacts of air pollution, and that compliance-related factors be considered at other points in the process – *e.g.*, by the states in determining how to comply with NAAQS, and by Congress in determining whether deadlines for attaining NAAQS should be extended. Indeed, a special commission established by the 1977 Amendments concluded in 1981 that this approach represents wise public policy and should not be changed – and it was *not* changed, even though Congress enacted another extensive overhaul of the Act in 1990.

Application of a presumption favoring consideration of costs should be rejected as simply another attempt to override Congress's clearly expressed intent that NAAQS-setting not encompass compliance-related factors. Indeed, the requested presumption directly contravenes this Court's holding in *Union Electric*, which

recognized that where Congress intended EPA to be concerned with economic and technological feasibility, it "expressly so provided." Unlike the generic, across-the-board presumption advocated by ATA, this holding was based on careful analysis of the specific language and structure of the Clean Air Act. The drafters of the periodic NAAQS review provision enacted in 1977 were aware of *Union Electric*, and expressed approval of that case's approach to construing the Act. Yet in enacting the periodic NAAQS review provision, they declined to "expressly . . . provide[ ]" for consideration of compliance-related factors.

The difficulty in establishing effects thresholds for air pollutants offers no basis for importing compliance-related factors into NAAQS. That difficulty was well-known to Congress in both 1970 and 1977, yet Congress established a mandate for promulgation and periodic review of primary NAAQS based solely on health effects of air pollutants. Moreover, the fact that an effects threshold has not been identified does not mean that scientific evidence documents adverse effects down to zero or background levels. Should such evidence develop in the future, it will be up to *Congress* to craft an appropriate response. In the meantime, EPA can appropriately set NAAQS based on the scientific evidence that exists, and can (as required by § 109(b)(1)) apply its "judgment" to set a "margin of safety" to compensate for uncertainties. While determining the size of such a margin will necessarily involve drawing distinctions of degree, this Court has recognized that such distinctions are an integral part of a civilized system of laws.

ARGUMENT

ATA concedes that, given the importance and centrality of the question whether compliance-related factors are to be considered in setting NAAQS, it is highly unlikely that Congress would have punted to EPA the discretion to answer this question – *i.e.*, that Congress would have left to the preferences of the agency whether to consider or ignore such factors. Specifically, ATA concedes that Congress did not *explicitly* delegate this power to EPA under *Chevron* Step One (*i.e.*, that Congress did not clearly express an intention that EPA can consider compliance-related factors or decline to consider them as the agency sees fit). ATA Br. 31 ("[i]t is highly unlikely that Congress would leave choices of such magnitude to an administrative agency") (internal quotations omitted). Likewise, ATA concedes that Congress did not *implicitly* delegate such discretion under *Chevron* Step Two (by failing to express a clear intention on the issue, thus implicitly delegating to EPA the discretion to consider or not consider compliance-related factors). *Id.* (recognizing the "implausibility of Congress's leaving a highly significant issue unaddressed") (internal quotations omitted).

In short, this case presents two competing *Chevron* Step One interpretations: did Congress clearly express an intent to *require* EPA to consider compliance-related factors, or did it clearly express an intent to *preclude* such consideration? The answer is clear: the latter is the only interpretation compatible with the text, structure, and evolution of the Act.

I. CONGRESS CLEARLY EXPRESSED ITS INTENT THAT PRIMARY NAAQS BE BASED ONLY ON HEALTH EFFECTS OF AIR POLLUTANTS.

1970 Amendments. Section 109(b)(1) requires that primary NAAQS be "requisite to protect the *public health*." (Emphasis added.) Moreover, the standards must be "based on" air quality "criteria," *id.*, which in turn "shall accurately reflect the latest scientific knowledge useful in indicating the kind and extent of all identifiable effects on *public health* or welfare which may be expected *from the presence of such pollutant in the ambient air*, in varying quantities." § 108(a)(2) (emphasis added). Thus, the statute clearly provides that factors other than health effects of air pollutants have no place in the setting of primary NAAQS.[8]

This conclusion, clear enough on the face of §§ 109(b)(1) and 108(a)(2), is confirmed by other portions of the 1970 Amendments that show Congress knew how to expressly incorporate compliance-related factors when it wished to do so. *See* pp. 14-15, *supra* (citing examples). "[I]t is generally presumed that Congress acts intentionally and purposely when it includes particular language in one section of a statute but omits it in another[.]" *Chicago v. Environmental Defense Fund*, 511 U.S.

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[8] The distinction between "health" and "welfare" in § 108(a)(2) matches a similar distinction in § 109(b) – specifically, between primary NAAQS to protect "health" and secondary NAAQS to protect "welfare." Thus, contrary to ATA's argument (ATA Br. 37-38), the portion of the criteria addressing "welfare" is not relevant to EPA's duty to set *primary* NAAQS addressing "health." And in any event, welfare effects cognizable under the statute, like health effects, are those relating to air pollutants – not to compliance costs. *See* p. 12 n.5, *supra*.

328, 338 (1994) (internal quotations omitted). Recognizing this principle, this Court has specifically held, in a decision construing the Clean Air Act: "Where Congress intended the Administrator to be concerned about economic and technological infeasibility, it expressly so provided." *Union Electric*, 427 U.S. at 257 n.5. Because Congress did not provide for compliance-related factors to be considered in setting primary NAAQS, EPA is not permitted to consider them.

Comparison of 1970 Amendments to their predecessors. "There is no better key to a difficult problem of statutory construction than the law from which the challenged statute emerged." *United States v. Cong. of Industrial Orgs.*, 335 U.S. 106, 112 (1948). That comparison is especially informative here. First, the 1970 Amendments dropped the 1967 Act's requirement that air quality standards be consistent with the control techniques information and with the Act's purposes, requiring instead that the standards be "based on" the "criteria." *See* pp. 12-14, *supra*. Second, the 1970 Amendments dropped the 1967 Act's requirement that previously issued criteria be reexamined, directing instead that EPA proceed forthwith to issue NAAQS based on the then-existing criteria – which did not address compliance-related factors. *See* pp. 12-13, *supra*. These changes clearly demonstrate congressional intent that compliance-related factors be excluded from the setting of NAAQS. *See TVA v. Hill*, 437 U.S. 153, 185 (1978) ("The pointed omission of the type of qualifying language previously included in endangered species legislation reveals a conscious decision by Congress to give endangered species priority over the 'primary missions' of federal agencies").

1970 Legislative History. The clear import of the statutory language is confirmed by the 1970 legislative history, which shows that Congress expressly intended to reject use of compliance-related factors in setting NAAQS; that it intended to establish health-based requirements that would challenge industry to develop new technologies; and that it believed the urgency of the air pollution problem required ambitious measures that would have far-reaching economic impacts. *See* pp. 7-16, *supra*.

1977 Amendments. The 1977 Amendments added a mandate for periodic review and revision of NAAQS. § 109(d). The drafters of that provision were aware both of the failure by numerous areas to attain the NAAQS by the 1975 deadline (and the serious economic issues raised by that failure), and of the rulemaking notice in which EPA had enunciated its interpretation of the Act as barring compliance-related factors from primary NAAQS-setting. They were also aware of this Court's decision in *Union Electric*, which held that where Congress intended EPA to be concerned with economic and technological feasibility, "it expressly so provided," 427 U.S. at 257 n.5 – indeed, the drafters explicitly noted their agreement with this approach to construing the Act. *See* p. 21, *supra*. Nonetheless, far from "expressly . . . provid[ing]" for EPA to consider compliance-related factors in NAAQS-setting, Congress required that new and revised NAAQS be consistent with the pre-existing mandate of § 109(b). § 109(d)(1). This provision stands in sharp contrast to other sections of the 1977 Amendments mandating that compliance-related factors be considered by EPA in developing regulations. *See* p. 20, *supra*. *See also* p. 29, *supra* (citing *Chicago*).

1990 Amendments. Though Congress was plainly aware of EPA's construction of the Act, the 1990 Amendments did not revise § 109 to "expressly . . . provide[ ]" for consideration of compliance-related factors – even though the Amendments included numerous other provisions addressing such factors. *See* p. 25, *supra*.

II. THE ACT'S "PUBLIC HEALTH" MANDATE DOES NOT ENCOMPASS INDIRECT HEALTH EFFECTS.

ATA's primary textual argument is that in moving from the 1967 Act's reference to "the health or welfare of any persons" to the 1970 Act's reference to "public health," Congress intended to sweep in alleged health effects associated with the cost of attaining air quality standards. ATA Br. 33-36; APC Br. 30-32. This argument overlooks § 109(b)(1)'s express requirement that NAAQS be "based on" criteria issued under § 108(a)(2). That latter section likewise uses the phrase "*public* health," (emphasis added), and clearly limits what *kinds* of effects are cognizable under that rubric: namely, effects "which may be expected *from the presence of such pollutant in the ambient air.*" (Emphasis added.). The socioeconomic effects that ATA cites result from compliance with NAAQS, not from pollutants in the air, and thus are not "public health" effects within the meaning of § 109(b)(1).

Indeed, the 1970 Congress's intent to preclude consideration of such effects is particularly clear given its *deletion* of the 1967 Act's provision that air quality standards be consistent with the control techniques information – information that expressly includes cost of compliance. *See* p. 13, *supra*. These 1967 Act provisions specifically addressing air quality standards (1967 Act § 108(c)(1) and (2)) furnish a more informative basis for

comparison than the general abatement language cited by ATA (1967 Act § 108(a), *cited in* ATA Br. 33).[9]

ATA's reading is also impossible to square with § 109(b)(1)'s mandate for NAAQS "the attainment and maintenance of which . . . are requisite to *protect* the public health." § 109(b)(1) (emphasis added). NAAQS can only address one thing: the concentrations of pollutants in the air. They cannot ensure better sanitation, improved access to medical care, better education in how to stay healthy, or other similar health-related socioeconomic goals. Thus, for example, if EPA relies on socioeconomic analysis as a ground for setting NAAQS less stringent than would be set based solely on health effects of air pollutants, those weaker NAAQS will not and cannot require that the resulting saved compliance costs be redirected by the regulated community to investments in public health programs. In short, if "public health" is defined in the broad manner advocated by ATA, promulgation of NAAQS that "protect" the public health would become impossible by definition.

Finally, ATA's argument represents a frontal attack on the technology-forcing mandate of the Act. *See* pp. 9-10, *supra* (describing Congress's technology-forcing intent).

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[9] In considering ATA's attempt to distinguish the health of "persons" from "public" health, it also bears emphasis that the 1970 Senate bill, which mandated NAAQS to protect "the health of persons," 1970 S. Rep. 86 (§ 110(a)(3)), was intended to require that NAAQS protect the "*public* health." *Id.* 2 (emphasis added). *Accord*, *id.* 9-11 (linking NAAQS to air quality criteria), 85 (§ 109(a)(2)) (requiring that criteria reflect "*public* health" effects) (emphasis added). The Senate committee's equating of the "health of persons" with "public health" further undercuts ATA's argument that the transition from one phrase to the other was intended to sweep in indirect health effects.

Under ATA's approach, EPA would base NAAQS on *before-the-fact* estimates of compliance costs (and resulting alleged health impacts). Such before-the-fact cost estimates, however, will necessarily reflect *today*'s technological knowledge, not tomorrow's – and will thus assign large (perhaps infinite) cost estimates to cleanup tasks for which known technology is nonexistent or unproven. The predicted high price tag will produce weaker NAAQS than would be set on the basis of health alone, resulting in more air-pollution-induced illness and death. By compromising health protection based on before-the-fact predictions that requirements cannot be met, EPA would be doing precisely what Congress foreclosed it from doing. *See* pp. 9-10, *supra*.

Aside from the inconsistency with congressional intent, basing NAAQS on before-the-fact compliance cost estimates makes no sense because such estimates are strongly biased towards overestimation. First, before-the-fact estimates cannot take account of future technological innovation, which in the past has produced compliance costs far lower than initially predicted. Second, even when technological innovation is not forthcoming, before-the-fact predictions will still overestimate compliance costs substantially, because they cannot forecast future congressional exemptions relieving industry of obligations it has been unable to meet. Thus, though Justice Powell's concurrence in *Union Electric* expressed concerns about the adverse health impacts that would flow from a shutdown of electric power generation, 427 U.S. at 272, a quarter-century later those fears have not been realized – not because all NAAQS have been attained, but because Congress has repeatedly granted extensions to avoid the adverse economic and social

impacts that might otherwise ensue. *See* pp. 21, 24-25, *supra*.

III. THE COURT SHOULD NOT OVERRIDE CONGRESS'S INTENT ON POLICY GROUNDS.

Unable to refute the strong evidence demonstrating Congress's intent that primary NAAQS be based solely on health effects of air pollutants, ATA resorts to public policy arguments, claiming that consideration of compliance-related factors would represent better regulatory policy. ATA Br. 47-50. But the proper role of the courts is to apply the law, not to formulate policy. *TVA v. Hill*, 437 U.S. at 194-95. ATA's arguments are especially ill-founded here, where Congress confronted and resolved that very policy issue in both 1970 and 1977. *See* pp. 6-22, *supra*. Moreover, after the 1977 Amendments Congress carefully considered yet again whether to amend the Act to allow consideration of compliance-related factors and declined to do so, after receiving a congressionally commissioned report (joined by members of Congress, industry, and state and local government) recommending *against* consideration of such factors, and after hearing from witnesses on both sides of the issue. *See* pp. 22-25, *supra*. Among those witnesses was Lester Lave, an amicus in this case, who recognized that if Congress were to accept his recommendation to allow consideration of compliance-related factors, "it *will certainly make the re-election of Congressmen more difficult* – which is why I am glad I am on this side of the table. But we will get better public policy and better public understanding." 1981 H. Hrg. 203 (emphasis added). Having failed to persuade their elected representatives to adopt their preferred approach, Dr. Lave and his allies now hope to have better success

with the unelected judiciary. That profoundly undemocratic approach to the making of public policy should be rejected.

Aside from being addressed to the wrong forum, ATA's policy arguments are misguided. As stated nearly twenty years ago by the Chairman of the House subcommittee with authority for the Act:

> The idea of using cost/benefit analysis to decide how much to protect public health is particularly dangerous. The protection of public health is the keystone of the Clean Air Act. For over a decade we have sought to protect particularly sensitive citizens such as children, the aged and asthmatics from polluted air. I don't think the American people would stand for abandoning these sensitive populations by misguided use of cost/benefit analysis.

1981 Joint Hrg. 58-59 (Congressman Waxman). *See* 1970 S. Rep. 10 (noting intent to protect "particularly sensitive citizens such as bronchial asthmatics and emphysematics"). Yet that is just what ATA proposes, arguing that the lives of the "weakest" victims of air pollution should be assigned a smaller monetary value, because they might have died soon anyway. ATA Br. 13, 19.

In addition to being inconsistent with congressional intent, such arguments raise profound moral and ethical issues. Indeed, when a witness told a House committee that air-pollution-induced mortality involved the "harvesting" of already weakened individuals, a Congressman responded that "I have heard of wheat harvest and corn harvest," but "this harvest of humans is just hard for me to take. . . . My goodness gracious, let us get away from that, not harvest our people." *Clean Air Act Oversight – 1973, Part 1*, House Hearing 93-62 (Sept. 10, 1973)

at 82-83 (Congressman Carter). *See also* 4/1981 S. Hrg. 94 (Senator Stafford: the Act embodies "the ethical principle that government should not condone levels of air pollution which are harmful to public health"); 1981 H. Hrg. 199 (Congressman Waxman: "Once you talk about a human being for sale, you have already taken and ascribed a different value to a human being than most of us would, by saying that a human life is an invaluable commodity."); 1975 S. Hrg. 774 (Senator Muskie: "[h]ow do you quantify in dollar terms health effects"?); 6/1981 S. Hrg. 243 (Senator Stafford: "it is hard to discover how much human life is worth"); *Industrial Union Dept., AFL-CIO v. American Petroleum Inst.*, 448 U.S. 607, 672 (1980) ("*Benzene*") (Rehnquist, J., dissenting) (the question whether human life should be balanced against economic costs presents "what has to be one of the most difficult issues that could confront a decisionmaker").

Congress has resolved these weighty issues by mandating primary NAAQS based on health effects of air pollutants. That decision should not be second-guessed by the judiciary.

ATA's policy argument also overlooks the structure of the Clean Air Act, which *does* consider compliance-related factors – but at the stage of achieving the NAAQS, not setting them. *See* pp. 8, 15, 20-21, 24-25, *supra*. *See also* 1977 H. Rep. 13 (nonattainment provisions of 1977 Amendments, which extended deadlines for attaining NAAQS, were "a means of *assuring realization* of the *dual* goals of attaining air quality standards and providing for new economic growth") (emphasis added); S. Rep. 127, 95th Cong., 1st Sess. 2-3 (1977) (responding to the "serious concern that achievement of air quality standards required to protect public health may impose unacceptable constraints on the Nation's capacity to achieve

the kind of economic activity necessary to bring about full employment and a balanced Federal budget," committee concluded that "more *time* was needed to achieve public health protection") (emphasis added).

Preserving health-based standards, while allowing more time to attain them where necessary, serves important policy goals:

> We prohibited the use of an economic test in setting health standards because we thought the public was entitled to know what the health requirements were.
>
> If we could not afford to be healthy, that is a second question, but we ought to at least know what was necessary to be healthy.

1979 S. Hrg. 343 (Senator Muskie). *Accord*, 6/1981 S. Hrg. 244-45 (David Hawkins, former Assistant Administrator of EPA for Air).

IV. THE COURT SHOULD NOT OVERRIDE CONGRESS'S INTENT BY PRESUMING THE RELEVANCE OF COMPLIANCE-RELATED FACTORS.

In an attempt to dress up its policy arguments in the garb of statutory construction, ATA asks the Court to adopt as a general rule of interpretation a *presumption* that costs may be considered, unless there is a "clear congressional intent" to preclude such consideration. ATA Br. 46 (citation omitted). Here, however, Congress *has* expressed a clear intent to limit primary NAAQS to health effects of air pollutants. *See* pp. 29-32, *supra*.

Moreover, ATA's requested presumption flies in the face of *Union Electric*: "Where Congress intended the Administrator to be concerned about economic and technological infeasibility, it expressly so provided." 427 U.S.

at 257 n.5. Unlike ATA's proposed presumption, that ruling was not an abstract across-the-board rule of construction designed to apply to statutes in general, but a conclusion based on careful analysis of congressional intent as revealed by *the Clean Air Act* in particular, which explicitly authorizes consideration of compliance-related factors in some provisions, but not in others. *See* pp. 12-15, *supra*. Moreover, the drafters of § 109(d) expressly indicated their acceptance of this aspect of *Union Electric*. *See* p. 21, *supra*. Under these circumstances, it would be especially inappropriate to override congressional intent with a policy-based presumption of the kind urged by ATA.

Indeed, a presumption of the kind advocated by ATA would be an unworkable approach to statutory interpretation. If the presumption were limited to costs, it would represent an unwarranted attempt to place a thumb on the scale of statutory interpretation by favoring some factors over others: why should courts presume the relevance of compliance costs, but not (for example) of health? If on the other hand the presumption were broadened to make cognizable *all* the "pros and cons" of agency action, ATA Br. 30 (citation omitted), the result would be an utterly unworkable presumption that every provision of every statute includes every factor that some litigant might consider relevant to an agency decision. Congress's ability to craft targeted statutory programs that operate in specified ways (for example, by providing for air quality standards to be set on the basis of health alone, and for costs to be considered in determining how to meet the standards and whether congressional extensions of attainment deadlines are warranted) would be compromised.

Finally, ATA's effort to justify its presumption on nondelegation grounds (ATA Br. 1) is meritless. The Act's NAAQS provisions pose no colorable nondelegation problem that could justify imposing a narrowing construction of the Act. ALA Br. in 99-1257 at 18-36. Moreover, ATA does not propose a narrowing construction of the Act, but rather a *widening* construction: instead of excluding factors from consideration so as to narrow the scope of the congressional delegation (as this Court did in *Natl. Cable Television Assn. v. United States*, 415 U.S. 336, 342-43 (1974)), ATA seeks to *expand* the breadth of the congressional delegation by *including* a wide range of factors beyond the health effects enumerated in the Act. *See* ATA Cross-Pet. 23 ("the key text of Section 109(b) rules in consideration of 'public health,' but fails to *rule out* consideration of anything") (emphasis in original).

V. NO EXEMPTION FROM THE ACT'S HEALTH-ONLY MANDATE IS AUTHORIZED FOR "NON-THRESHOLD" POLLUTANTS.

ATA argues that a health-only mandate should not apply because the pollutants at issue are "non-threshold." ATA Br. 25-26. This argument must be rejected. As previously shown, the Act clearly requires primary NAAQS to be based solely on health effects of air pollutants. Congress made no exemption from this mandate for "non-threshold" pollutants, and it is not the role of the judiciary to create such an exemption based on the argument that Congress "would have done so had it thought about it." *West Virginia University Hospitals v. Casey*, 499 U.S. 83, 100 (1991).

Moreover, Congress clearly *did* think about this issue. It enacted the 1970 Act's health-only mandate after having been told by EPA's predecessor agency that "[t]o identify a no-known-effects level is something that would be, in my opinion, not only extremely difficult but very likely not possible." A Legislative History of the Clean Air Amendments of 1970 at 1184 (John Middleton of HEW). And in 1977 the drafters of § 109(d) wrote extensively concerning the likely absence of effects thresholds for various pollutants, 1977 H. Rep. 106-12, yet declined to authorize EPA to consider compliance-related factors in setting NAAQS. Subsequently, the difficulty in identifying effects thresholds was brought to Congress's attention again by those advocating consideration of compliance-related factors (including amici in the present case), *see, e.g.*, 1981 H. Hrg. 86 (Lester Lave), but Congress declined to include in the 1990 Amendments authorization to consider such factors.

ATA argues that in the case of "non-threshold" pollutants, a health-only mandate would result in standards set either at zero, or at a non-zero level chosen "arbitrarily." ATA Br. 29-30. This argument is meritless. Appalachian Power concedes that NAAQS must be set below the level at which "demonstrated adverse public health effects" occur. APC Br. 25. Identification of the level at which such effects occur is a health-only inquiry, and is not arbitrary: to the contrary, it is based on evaluation of scientific evidence concerning health effects to determine which effects have been demonstrated, and which of those demonstrated effects are adverse. 6/1981 S. Hrg. 240-41 (Dr. Homer Boushey, professor of medicine, testifies that if a health effect is defined as "a measurable change" in a health parameter, then identification of a

threshold may be difficult or impossible, but if the focus shifts to "adverse" effects, *i.e.*, "change that is likely to be associated with impairment of function or the development of symptoms, I think it is possible to identify a level where such an effect may occur with a high degree of probability in a portion of the population").

Second, identification of how far *below* the level of demonstrated adverse effects the standard should be set is likewise a health-only inquiry, pursuant to the Act's requirement to set an "adequate margin of safety" that is "based on" criteria addressing health effects of air pollutants. § 109(b)(1). The exact *amount* of the margin of safety cannot be reduced to a formula, and will necessarily depend on the Administrator's "judgment" (§ 109(b)(1)) concerning how much protection is warranted against effects that are less well-understood. *See* 1970 S. Rep. 10. That such a judgment may require distinctions of degree rather than of kind does not make it arbitrary. *Daniels v. Williams*, 474 U.S. 327, 334 (1986) (quoting with approval Justice Holmes: "I do not think we need trouble ourselves with the thought that my view depends upon differences of degree. The whole law does so as soon as it is civilized.") (citation omitted).

Moreover, the fact that an effects threshold above zero may not have been identified does not necessarily mean that *scientific evidence* documents adverse effects down to zero or background levels. As the D.C. Circuit has recognized, "when a straight line extrapolation from *known* risks is used to estimate risks to health at levels of exposure *for which no data is available*," that "[t]his method, which is based upon the results of exposure at fairly *high* levels of the hazardous pollutants, will show some risk at every level because of the rules of arithmetic

rather than because of any knowledge." Natural Resources Defense Council v. USEPA, 824 F.2d 1146, 1165 (D.C. Cir. 1987) (emphasis added). Thus, if NAAQS are based on scientific evidence, and on margins of safety reasonably selected through assessment of scientific evidence and uncertainties in that evidence, they need not automatically be set at zero or background levels even for non-threshold pollutants.

It is possible that scientific knowledge concerning effects at lower pollutant concentrations may progress to the point where NAAQS at zero or background levels are the only available choice under § 109(b)(1). At that point, it will be for *Congress* to decide upon and enact an appropriate response – for example, by extending deadlines as it has done in the past, or by changing the paradigm of NAAQS decisionmaking. 4/1981 S. Hrg. 1 (Senator Stafford: "The Clean Air Act is not immutable. We have made changes in the original 1970 law as we have gained more knowledge about the effects of air pollution and the effects of the statute."). *Accord*, 6/1981 S. Hrg. 220 (Senator Randolph).

Finally, ATA's criticism of the alleged arbitrariness of § 109(b)(1) ignores the arbitrariness in ATA's own suggested approach. Far from being a determinate process, cost-benefit analysis involves many value judgments – in deciding how to assign quantitative values,[10] as well as how to weigh non-quantified factors. *See* AEI-Brookings

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[10] For example, how much are human life and health worth? *See* pp. 36-37, *supra*. How much future technological innovation will occur, thus driving down compliance costs? *See* pp. 9-10, *supra*. *See also* 1981 H. Hrg. 27 (Marvin Schneiderman: cost-benefit analysis "is very sensitive to some strictly technical and arbitrary issues" such as the choice of a discount rate).

Br. 10 (stressing importance of weighing "equity" and other "qualitative" factors "that are not easily quantified or monetized"). A health-only inquiry involves fewer variables, and thus fewer opportunities for arbitrary decisionmaking, than ATA's approach, which would open up EPA's deliberations to anything that might be considered a "pro[ ]" or a "con[ ]" of a NAAQS. *See* ATA Br. 30. *See also Benzene*, 448 U.S. at 682 (Rehnquist, J., dissenting) ("If § 6(b)(5) authorizes the Secretary to reject a more protective standard in the interest of administrative feasibility, I have little doubt that he could reject such standards *for any reason whatsoever*, including even political feasibility.") (emphasis added).

VI. EPA'S 1997 NAAQS ARE SUPPORTED BY COMPELLING EVIDENCE OF ADVERSE HEALTH EFFECTS.

ATA casts aspersions on the evidentiary underpinnings of EPA's 1997 NAAQS. ATA Br. 6-7, 12-14; APC Br. 10-13. Aside from being irrelevant to the *statutory* issue raised by ATA's petition, these arguments are meritless.

The evidentiary background for EPA's 1997 NAAQS is explained in ALA's brief in No. 99-1257. Several points deserve emphasis here. First, the suggestion that the effects documented by EPA do not constitute demonstrated adverse public health effects simply because they do not rise to the dire severity of the London Killer Fog (APC Br. 25) must be rejected. Over thirty years ago, Congress criticized "the false impression that air pollution is a health hazard only when unusual weather conditions conspire to produce localized disasters. . . . The subtler, less dramatic long-range effects of air pollution

are of much more serious consequence to the population as a whole." 1967 H. Rep. 4-5. *Accord*, 1967 S. Rep. 9.

Second, the notion that EPA is "regulat[ing] air pollution to ever more stringent levels" (APC Br. 2) not previously foreseen ignores a simple reality: the 1997 ozone NAAQS (0.08 ppm, eight-hour average) regulates to substantially *less* stringent levels than the 1971 photochemical oxidants NAAQS (0.08 ppm, *one*-hour average). Indeed, the drafters of § 109(d) noted without protest that the 1971 photochemical oxidants NAAQS might need to be revised to regulate even *more* stringent levels. 1977 H. Rep. 108-09. In short, the argument that EPA's substantially *less* stringent 1997 NAAQS strayed below the pollution levels of concern to Congress is simply unsustainable.

PM NAAQS. With respect to the PM NAAQS, industry has not disputed the adverse nature of the public health effects at issue (*e.g.*, death, hospitalization, respiratory illness, and missed work and school days), *see* 62 Fed. Reg. 38657/1 (1997), JAPM 7, but instead has challenged EPA's reliance on epidemiological studies, which do not demonstrate a biological mechanism through which PM causes adverse effects. ATA Br. 13. The D.C. Circuit resoundingly rejected this argument, App. 55a-56a, and with good reason. Congress recognized that epidemiological studies are one of "four types of evidence which link air pollution to specific health detriment," 1967 S. Rep. 9, *accord*, 1967 H. Rep. 3, and indeed has directed EPA to "conduct studies, including *epidemiological*, clinical, and laboratory and field studies, as necessary to identify and evaluate exposure to and effects of air pollutants on human health." 42 U.S.C. § 7403(d)(1)(A) (emphasis added). *See also* 6/1981 S. Hrg.

194 (Dr. Norton Nelson, professor of environmental medicine: "The *most directly relevant data* is epidemiological data," because it "deals with humans, not rats or mice") (emphasis added).

The epidemiological database available to EPA amply justified establishment of a fine particle NAAQS to protect against adverse public health effects occurring at particulate concentrations allowed by the prior NAAQS. In contrast to, for example, the 1971 photochemical oxidant NAAQS, which was based on a *single* epidemiological study,[11] the 1997 PM NAAQS was based on "[o]ver 60" such studies that "found consistent, positive, significant associations between short-term PM levels and mortality and morbidity endpoints." SP V-54, JAPM 2011. And in sharp contrast to the six sentences that represented EPA's entire explanation of the 1971 PM NAAQS, 36 Fed. Reg. 1502/2 (1971), JAPM 260, EPA provided thorough and detailed analysis that convinced all four of CASAC's epidemiologists of the need for new NAAQS addressing fine particles, the particle fraction most clearly identified with the effects. Wolff 6/13/96 Ltr., Table 1, JAPM 3165. Three of those epidemiologists concluded:

> EPA has appropriately synthesized this evidence and drawn a responsible public health conclusion, namely, that particulate concentrations *at current levels* are causally associated with excess mortality and morbidity. Furthermore, we agree that *fine* particulates, as currently indexed by PM2.5, are the most appropriate indicator for

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[11] 36 Fed. Reg. 8186/2 (1971), JAO 3539; 43 Fed. Reg. 26962/2-3, 26965 (table) (1978), JAO 3516, 3519.

> the component of the particulate air mass to which these adverse effects are attributed.

Lippmann 3/20/96 Ltr 7, JAPM 3159 (emphasis added).

EPA's issuance of a fine particle NAAQS not only responds to compelling scientific evidence, but also fulfills the promise EPA made decades ago, when it told Congress that the 1971 PM NAAQS "was promulgated with the full understanding and intention that later ambient air quality standards for specific fractions or components of the total suspended particulate would be necessary." 1975 S. Hrg. 755 (Dr. John Knelson, Director, EPA Human Studies Laboratory). Indeed, the drafters of 109(d) expressly directed EPA's attention to testimony that, because the 1971 PM standard "fail[ed] to differentiate between large particulate that results from blowing dust and the much finer particulate that results from human activity," it allowed "many heavily industrialized, obviously 'polluted' urban areas [to] meet the standard." *Clean Air Act Oversight – 1973, Part 2*, House Hearing 93-63 (Sept. 1973), at 826 (Texas Air Control Board), *cited in* 1977 H. Rep. 182.

EPA's fine particle standard is designed to provide improved public health protection against such pollution. Far from protecting just a few scattered individuals, it is one of the most important public health regulations of our time, holding out the promise of preventing thousands of deaths, tens of thousands of hospital admissions and respiratory illnesses, and millions of days of missed work and restricted activity each year. *See* RIA 12-43, JAPM 3486.

Ozone NAAQS. With respect to the ozone NAAQS, the evidence demonstrating adverse public health effects is likewise compelling. First, human clinical studies were

conducted on volunteers, who were dosed with specified concentrations of ozone for specified periods. Those studies showed that, after 6.6 hours of exposure to 0.08 ppm ozone, 10% of the subjects had drops in lung function of 20% or more – with individual decreases ranging as high as 37.9%. ALA Br. in 99-1257 at 8.

EPA expressly found that the effects of 0.08 ppm ozone are adverse for sensitive individuals. 62 Fed. Reg. 38864/1, JAO 9. EPA's conclusion that adverse effects were experienced by "some" of the clinical study participants at 0.08 ppm, *id.*, even if interpreted extremely cautiously as encompassing only relatively few of the sixty individuals participating in the two key prolonged exposure studies at that level,[12] would still mean that a significant percentage of exposed individuals can be expected to experience adverse effects at 0.08 ppm. Moreover, because the individuals tested in these studies were all healthy young adults,[13] these results understate the likely impact on sensitive populations such as asthmatics. CD 9-26, JAO 1767 ("The magnitude of individual changes can become more important in persons with impaired respiratory systems (*e.g.*, asthmatics) who already have reduced baseline lung function."). Extrapolated to the national population, the clinical studies belie any suggestion that ozone's adverse effects strike only a few scattered individuals.

In addition to the human clinical data, epidemiological evidence demonstrated increased hospital admissions and emergency room visits for respiratory causes at

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[12] *See* CD 7-58 Fig. 7-4, JAO 1515 (60 individuals tested at 0.08 ppm, 6.6-hour duration).

[13] *See* CD 7-54, JAO 1511 (Horstman and McDonnell).

ozone levels allowed by the prior NAAQS. 62 Fed. Reg. 38864/1, JAO 9. For each ozone-induced hospital admission, moreover, there are far larger numbers of other ozone-induced health effects including asthma attacks and visits to doctors and outpatient facilities. *Id.* 38868/1, JAO 13. It is scant consolation to the stricken individuals that some of these adverse health effects may be "transient and reversible." ATA Br. 6. *See* 6/1981 S. Hrg. 233 (Dr. Boushey: "most attacks of asthma" are reversible, but "no physician or lay person who has witnessed the distress of an asthmatic attack could fail to recognize it as an adverse health effect"). *See also* ALA Br. in 99-1257 at 7-8 (victims describe asthma attacks); 44 Fed. Reg. 8207/3 (1979), JAO 3485 ("Even when reversible, respiratory symptoms may restrict normal activity or limit the performance of tasks.").

Unable to refute the scientific evidence documenting adverse effects from ozone exposure at concentrations allowed by the prior NAAQS, industry is left with critiques of EPA's risk assessments, which attempted to gauge how many individuals would come into contact with various ozone levels. APC Br. 11-12. But EPA determined in this rulemaking, based on cogent scientific evidence, that a significant percentage of the population experiences adverse health effects at ozone levels permitted by the prior standard. EPA was not required to deny public health protection based on a prediction of the size of the affected groups or the frequency with which they will come into contact with polluted air. People who currently pursue or may in the future need or want to pursue multi-hour outdoor exercise – whether they are children at camp, construction workers, landscapers, or letter-carriers – are entitled to do so without fear of ozone-induced respiratory impairment. *See, e.g.*, 1970 S.

Rep. 10 (NAAQS must protect sensitive citizens "who in the normal course of daily activity are exposed to the ambient environment"), 36 ("Recommendations that children not run to and from school and that events be suspended are not a substitute for reducing pollution."); 44 Fed. Reg. 8210/1 (1979), JAO 3488 ("Standards must be based on a judgment of a safe air quality level and *not on an estimate of how many persons will intersect given concentration levels*. EPA interprets the Clean Air Act as providing citizens the opportunity to pursue their normal activities in a healthy environment.") (emphasis added).

Finally, as to both PM and ozone, it bears emphasis that this case (unlike *Benzene*) does not present a situation where an agency has regulated at pollutant levels an order of magnitude below the range where adverse effects are demonstrated. To the contrary, as shown above and in ALA's brief in No. 99-1257 (at 34-35), the scientific evidence documents adverse health effects in the range where both the PM and ozone NAAQS were set.

CONCLUSION

For the foregoing reasons, the Court should affirm the D.C. Circuit's conclusion that primary NAAQS must be based solely on health effects of air pollutants.

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Respectfully submitted,

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